KIM

GEBRUIKERS CLUB NEDERLAND

SOFTWARE

PROGRAM: PC001

POCKET CALCULATOR PROGRAM

BY: SIEP DE VRIES

Classification code: 00.012.320

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POCKET CALCULATOR PROGRAM
DESCRIPTION
Nummer: PC001
Blad: 1 OF 17

```
POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN          DATE 04/03/77 - PAGE    1

CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  THE FOLLOWING PROGRAM IS                              *
                          ; *      A POCKECT CALCULATOR                                   *
                          ; *                                                             *
                          ; *      INPUT/OUTPUT IS EITHER TELETYPE                        *
                          ; *      OR KIM KEYBOARD AND DISPLAY                            *
                          ; *                                                             *
                          ; *      INPUT IS GIVEN BY PRESSING THE                         *
                          ; *      KEYS FOR A DECIMAL NUMBER                              *
                          ; *      FOLLOWED BY A FUNCTIONKEY.                             *
                          ; *                                                             *
                          ; * * *  FUNCTIONS:                                            *
                          ; *                                                             *
                          ; *      A = + = ADD NUMBER TO RESULT                           *
                          ; *      B = - = SUBTRACT NUMBER FROM RESULT                    *
                          ; *      C = * = MULTIPLY RESULT BY NUMBER                      *
                          ; *      D = / = DIVIDE RESULT BY NUMBER                        *
                          ; *      E = C = CLEAR INPUT NUMBER                             *
                          ; *      F = A = CLEAR RESULT                                   *
                          ; *     AD = R = REMAINDER OF LAST DIVISION                     *
                          ; *     DA = I = NUMBER STORED IN MEMORY                        *
                          ; *      + = C = NUMBER FROM MEMORY                             *
                          ; *     PC = % = CALCULATE PERCENTAGE                           *
                          ; *     GO = C = CLEAR RESULT                                   *
                          ; *                                                             *
                          ; *      THE PROGRAM MAKES USE OF THE                           *
                          ; *      INTEGER CALCULATING PACKAGE:                           *
                          ; *      'INTCAL' PARTNO 770110                                 *
                          ; *      A 3-BYTE VERSION IS USED                               *
                          ; *                                                             *
                          ; ***************************************************************
```

Datum ingang: MARCH, 04, 1977
Vervangt: NEW.
d.d.: -
Ref.: SIEP DE VRIES

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POCKET CALCULATCR PROGRAM - SIEP DE VRIES - LIMMEN          CATE 04/03/77 - PAGE     2

CARC #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  DEFINITIONS:                                          *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        17FE              INITRP=ƒ17FE        INTERRUPT BREAK TRAP
        17FA              NMITRP=ƒ17FA        NON MASKABLE INTERRUPT TRAP
                          ;
                          ;
                          ;
                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  CALCULATOR SUBROUTINES:                               *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        0313              LOAD=ƒ313
        0327              STORE=ƒ327
        0335              ADD=ƒ335
        0347              SUB=ƒ347
        035F              MPY=ƒ35F
        03AC              DVI=ƒ3AC
```


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```
POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN          DATE 04/03/77 - PAGE    3

CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  GENERAL SUBROUTINES:                                   *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        1F1F              SCANDS=ƒ1F1F        DISPLAY DATA KIM
        1F6A              GETKEY=ƒ1F6A        READ DATA KIM
        1EAC              OUTCH=ƒ1EAC         PRINT CHARACTER TTY
        1E5A              GETCH=ƒ1E5A         READ CHARACTER TTY
        1E2F              CRLF=ƒ1E2F          PRINT CRLF
        1E3B              PRIBYT=ƒ1E3B        PRINT BYTE AS 2 DIGITS
                          ;
                          ;
                          ;
                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  PAGE ZERO DEFINITIONS:                                 *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        0003              NULL=3              LOCATION 3
        0006              EENHON=NULL+3
        0009              MEMRY=EENHON+3
        00F9              DATA=ƒF9
        001C              NUMCAR=MEMRY+3
        001D              PREV=NUMCAR+1
```


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```
POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN          DATE 04/03/77 - PAGE    4

CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  CHARACTER SET:                                        *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        002B              PLUS=ƒ2B
        002D              MIN=ƒ2D
        002A              MAAL=ƒ2A
        002F              DEEL=ƒ2F
        0043              CLRNUM=ƒ43
        0041              CLRALL=ƒ41
        0052              REP=ƒ52
        0049              MEMIN=ƒ49
        004F              MEMOUT=ƒ4F
        0025              PRCNT=ƒ25
        003F              VRAAG=ƒ3F
        1740              PIADAT=ƒ1740        PIA TO TEST TTY/KIM
```


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CARD #	LOC	OBJECT CODE	LABEL	OPER	OPERAND	COMMENTS
111			; **********			
112			; *			*
113			; * * *	FIXED DATA:		*
114			; *			*
115			; **********			
116			;			
117			;			
118			;			
119			*=NULL			
120	0003	00 00 00	.BYTE	0,0,0		
121			*=EENHON			
122	0006	00 01 00	.BYTE	0,1,0		
123			;			
124			;			
125			;			
126			; **********			
127			; *			*
128			; * * *	MISCELLANEOUS:		*
129			; *			*
130			; **********			
131			;			
132			;			
133			;			
134	00DD		ACCU=$00DD			
135	00E3		DACCU=$00E3			

Datum ingang: MARCH 04, 1977

Vervangt: NEW.

d.d.: -

Ref.: SIEP DE VRIES

DEFINITIONS (CONT'D)

POCKET CALCULATOR PROGRAM

Nummer: PC001

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```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

    136                   *=0
    137  0000 4C 1E 00    BEGIN    JMP     CALCUL
    138                   *=PREV+1
    139                   ; ---    START OF PROGRAM
    140  001E D8          CALCUL   CLD                      INITIALIZE
    141  001F 78                   SEI
    142  0020 A9 C0                LDA     #0
    143  0022 8D FE 17             STA     INTRP
    144  0025 8D FA 17             STA     NMITRP
    145  0028 A9 1C                LDA     #$1C
    146  002A 8D FF 17             STA     INTRP+1
    147  002D 8D F8 17             STA     NMITRP+1
    148  0030 A0 00                LDY     #0              RESULT AND
    149  0032 A2 03                LDX     #NULL=03        MEMORY ARE BOTH
    150  0034 20 13 03             JSR     LOAD            ZERO
    151  0037 A2 09                LDX     #MEMRY
    152  0039 20 27 03             JSR     STORE
    153  003C 20 00 02    GETINP   JSR     INPUT           READ NUMBER + FUNCTION
    154  003F A2 F9       WEDER    LDX     #DATA           ADDRESS OF
    155  0041 A0 00                LDY     #0              OPERAND
    156  0043 C9 2B                CMP     #PLUS
    157  0045 D0 C5                BNE     NOADD
    158                   ;
    159  0047 20 35 03             JSR     ADD             ADD OPERAND
    160  004A B0 42                BCS     PROBLM          CARRY SET IN ERROR
    161  004C C9 2D       NOADD    CMP     #MIN
    162  004E D0 05                BNE     NOMIN
    163                   ;
    164  0050 20 47 03             JSR     SUB             SUBTRACT OPERAND
    165  0053 B0 39                BCS     PROBLM          CARRY CLEAR IS ERROR
    166  0055 C9 2A       NOMIN    CMP     #MAAL
    167  0057 D0 05                BNE     NOMAAL
    168                   ;
    169  0059 20 5F 03             JSR     MPY             MULTIPLY OPERAND
    170  005C B0 30                BCS     PROBLM          CARRY SET IS ERROR
    171  005E C9 2F       NOMAAL   CMP     #DEEL
    172  0060 D0 05                BNE     NODEEL
    173                   ;
    174  0062 20 AC 03             JSR     DVI             DIVIDE BY OPERAND
```

MAIN LINE

POCKET CALCULATOR PROGRAM

Datum ingang: MARCH 04, 1977

Vervangt: NEW.

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POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN DATE 04/03/77 - PAGE 7

CARD #	LOC	OBJECT CODE	LABEL	OPER	OPERAND	COMMENTS
175	0065	~~B0 27~~		~~BCS~~	~~PROBLM~~	CARRY CLEAR IS ERROR
176	0067	C9 41 Normal	~~NODEEL~~	CMP	#CLRALL	
177	0069	D0 05		BNE	NOCLER	
178	006B	A2 03	CLEAR	LDX	#NULL	
179	006D	20 13 03		JSR	LOAD	JUST LOAD ZERO
180	007C	C9 25	NOCLER	CMP	#PRCNT	
181	0072	D0 0C		BNE	NOPER	
182			;			
183	0074	20 5F 03		JSR	MPY	MULTIPLY BY
184	0077	B0 15		BCS	PROBLM	PERCENTAGE
185	0079	A2 06		LDX	#EENHON	
186			;			
187	007B	20 AC 03		JSR	DVI	DIVIDE BY
188	007E	B0 0E		BCS	PROBLM	ONE HUNDRED
189			;			
190	0080	C9 52	NOPER	CMP	#REP	
191	0082	D0 05		BNE	NOREM	
192	0084	A2 E3		LDX	#DACCU	
193	0086	20 13 03		JSR	LOAD	
194	0089	4C 3C 00	NOREM	JMP	GETINP	
195	008C	EA EA		NOP	NOP	
196	008E	20 BD 02	PROBLM	JSR	ERROR	
197	0091	4C 3C 00		JMP	GETINP	

Datum ingang: MARCH 04, 1977
Vervangt: NEW.
d.d.: -
Ref.: SIEP DE VRIES

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POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN DATE 04/03/77 - PAGE 8

```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  SUBROUTINE TO INPUT                                   *
                          ; *      DATA + FUNCTION                                        *
                          ; *                                                             *
                          ; *      THE RESULT IS SHOWN,                                   *
                          ; *      A NEW NUMBER CAN BE KEYED IN                           *
                          ; *      FOLLOWED BY A NON-NUMERICAL                            *
                          ; *      KEY, WHICH CAUSES A RETURN                             *
                          ; *                                                             *
                          ; * * *  CLEAR INPUT, STORE IN MEMORY                           *
                          ; *      AND GET FROM MEMORY ARE                                *
                          ; *      PROCESSED IN THIS SUBROUTINE                           *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
                          *=ƒ200
0200 A2 F9                INPUT    LDX     #DATA            PERFORM OUTPUT  — 4e Rect
0202 A0 00                         LDY     #0               FIRST
0204 20 27 03                      JSR     STORE
0207 20 A7 02             WERONP   JSR     OUTPUT
020A A9 00                         LDA     #0               CLEAR DIGIT-
020C 85 1C                         STA     NUMCAR           COUNTER
020E 20 71 02             WERINP   JSR     INCHAR           READ NEXT CHARACTER 5e Ret
0211 C9 43                         CMP     #CLRNUM          CLEAR NUMBER
0213 F0 EB                         BEQ     INPUT            RE-DISPLAY RESULT
0215 C9 49                         CMP     #MEMIN
0217 D0 0F                         BNE     NOMEMI
0219 A5 F9                         LDA     DATA             MEMORY IN
021B 85 09                         STA     MEMRY            DISPLAY NUMBER
021D A5 FA                         LDA     DATA+1
021F 85 0A                         STA     MEMRY+1
0221 A5 FB                         LDA     DATA+2
0223 85 0B                         STA     MEMRY+2
0225 4C 07 02                      JMP     WERONP
0228 C9 4F                NOMEMI   CMP     #MEMOUT          NUMBER COMES
022A D0 0F                         BNE     TESDEC           FROM MEMORY
```

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POCKET CALCULATOR PROGRAM

I/O SUBROUTINES

Nummer: PC001

Blad: 8 OF 17

Datum ingang: MARCH 04, 1977

Vervangt: NEW.

d.d.: -

Ref.: SIEP DE VRIES

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POCKET CALCULATOR PROGRAM
I/O SUBROUTINES (CONT'D)
Nummer: PC001
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POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN DATE 04/03/77 - PAGE 9

CARD #	LOC	OBJECT CODE	LABEL	OPER	OPERAND	COMMENTS
237	022C	A5 09		LDA	MEMRY	DISPLAY IT
238	022E	85 F9		STA	DATA	
239	023C	A5 CA		LDA	MEMRY+1	
240	0232	85 FA		STA	DATA+1	
241	0234	A5 CB		LDA	MEMRY+2	
242	0236	85 FB		STA	DATA+2	
243	0238	4C 07 02		JMP	WERONP	
244	023B	C9 30	TESDEC	CMP	#ƒ30	
245	023D	10 01		BPL	GODEC	
246	023F	60	NODEC	RTS		LEAVE CHARACTER UNKNOWN
247	024C	C9 3A	GODEC	CMP	#ƒ3A	
248	0242	10 FB		BPL	NODEC	
249	0244	A6 1C		LDX	NUMCAR	IT'S DECIMAL
250	0246	D0 08		BNE	NOTFRS	
251	0248	A0 00		LDY	#0	FIRST DIGIT CLEARS
252	024A	84 F9		STY	DATA	NUMBER
253	024C	84 FA		STY	DATA+1	
254	024E	84 FB		STY	DATA+2	
255	0250	38	NOTFRS	SEC		
256	0251	E9 30		SBC	#ƒ30	OBTAIN VALUE
257	0253	2A		ROL		DIGIT LEFT POSITIONED
258	0254	2A		ROL		IN ACC
259	0255	2A		ROL		
260	0256	2A		ROL		
261	0257	A2 04		LDX	#4	
262	0259	2A	ROLWER	ROL		SHIFT DIGIT IN
263	025A	26 F9		ROL	DATA	
264	025C	26 FA		ROL	DATA+1	
265	025E	26 FB		ROL	DATA+2	
266	026C	CA		DEX		
267	0261	D0 F6		BNE	ROLWER	
268	0263	E6 1C		INC	NUMCAR	
269	0265	A5 1C		LDA	NUMCAR	TEST IF TOO MANY DIGITS
270	0267	C9 07		CMP	#7	
271	0269	30 A3		BMI	WERINP	
272	026B	20 BD 02		JSR	ERROR	
273	026F	4C 00 02		JMP	INPUT	

Datum ingang: MARCH 04 1977
Vervangt: NEW
d.d.:
Ref.: SIEP DE VRIES

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POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN          DATE 04/03/77 - PAGE    10

CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  SUBROUTINE TO READ A                                  *
                          ; *      CHARACTER FROM KIM OR TTY                              *
                          ; *      OUTPUT IS IN ASCII                                     *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        0271 A9 01        INCHAR   LDA     #1
        0273 2C 40 17              BIT     PIADAT           TEST IF KIM
        0276 F0 16                 BEW     TTYIN
        0278 20 1F 1F     PUNT1    JSR     SCANDS           WAIT FOR NO KEY
        027B D0 FB                 BNE     PUNT1
        027D 20 1F 1F     PUNT2    JSR     SCANDS           WAIT FOR A KEY
        028C F0 FB                 BEQ     PUNT2
        0282 20 6A 1F              JSR     GETKEY
        0285 C9 15                 CMP     #$15             IGNORE IT IF
        0287 10 EF                 BPL     PUNT1            BOUNCE
        0289 AA                    TAX
        028A BD 92 02              LDA     ASCTAB,X         CONVERT TO ASCII
        028D 60                    RTS
        028E 20 5A 1E     TTYIN    JSR     GETCH            TTY IS EASIER
        0291 60                    RTS
        0292 30 31 32     ASCTAB   .BYTE   $30,$31,$32      0-1-2
        0295 33 34 35              .BYTE   $33,$34,$35      3-4-5
        0298 36 37 38              .BYTE   $36,$37,$38      6-7-8
        029B 39 2B 2D              .BYTE   $39,PLUS,MIN     9-A-B
        029E 2A 2F 43              .BYTE   MAAL,DEEL,CLRNUM C-D-E
        02A1 41 52 49              .BYTE   CLRALL,REP,MEMIN F-AD-DA
        02A4 4F 25 41              .BYTE   MEMOUT,PRCNT,CLRALL PC-+-GO
```


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POCKET CALCULATOR PROGRAM - SIEP DE VRIES - LIMMEN DATE 04/03/77 - PAGE 11

```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  OUTPUT NUMBER FROM                                    *
                          ; *      DATA AREA TO TTY IF CONNECTED                          *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        02A7 A9 01        OUTPUT   LDA     #1
        02A9 2C 40 17              BIT     PIADAT
        02AC F0 01                 BEQ     ITSTTY
        02AE 60                    RTS
        02AF A2 02        ITSTTY   LDX     #2
        02B1 B5 F9        WTYP     LDA     DATA,X
        02B3 20 3B 1E              JSR     PRTBYT
        02B6 CA                    DEX
        02B7 10 F8                 BPL     WTYP
        02B9 20 2F 1E     OUTYP    JSR     CRLF
        02BC 60                    RTS
```


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```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************
                          ; *                                                 *
                          ; * * *  ERROR SUBROUTINE                          *
                          ; *                                                 *
                          ; ***************************************************
                          ;
                          ;
                          ;
        02BD A9 01        ERROR    LDA     #1
        02BF 2C 40 17              BIT     PIADAT
        02C2 F0 CA                 BEQ     TTYERR
        02C4 A2 02                 LDX     #SIZE-1
        02C6 A9 FF                 LDA     #$FF
        02C8 95 DD        SETFUL   STA     ACCU,X
        02CA CA                    DEX
        02CB 10 FB                 BPL     SETFUL
        02CD 60                    RTS
        02CE A9 3F        TTYERR   LDA     #VRAAG
        02D0 20 A0 1E              JSR     OUTCH
        02D3 4C B9 02              JMP     OUTYP
```


Datum ingang:
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```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************************
                          ; *                                                             *
                          ; * * *  INTEGER PACKAGE 'INTCAL'                              *
                          ; *      #770110                                                *
                          ; *                                                             *
                          ; *                                                             *
                          ; *      DEFINITIONS FOR INTEGER                                *
                          ; *      CALCULATOR                                             *
                          ; *                                                             *
                          ; * * *  WHENEVER A DIFFERENT                                   *
                          ; *      NUMBER OF BYTES PER                                    *
                          ; *      NUMBER IS REQUIRED, ALL                                *
                          ; *      INSTRUCTIONS CONTAINING                                *
                          ; *      SIZE, ACCU AND DACCU HAVE                              *
                          ; *      TO BE RECODED OR 'SIZE'                                *
                          ; *      HAS TO BE CHANGED TO THE                               *
                          ; *      PROPER VALUE AND THE PROGRAM                           *
                          ; *      BE REASSEMBLED                                         *
                          ; *                                                             *
                          ; * * *  COPYRIGHT:                                             *
                          ; *      WESTVRIES COMPUTER CONSULTING                          *
                          ; *      P.O.BOX 20                                             *
                          ; *      O O S T Z A A N                                        *
                          ; *      THE NETHERLANDS                                        *
                          ; *                                                             *
                          ; ***************************************************************
                          ;
                          ;
                          ;
        0003              SIZE=3
                          *=ƒE9-4ƒSIZE
        00DD              ACCU=*
        00E3              DACCU=ACCU+2*SIZE
                          *=ƒE9
        00E9              LOADAD=DACCU+2*SIZE
        00EB              ACCSAV=LOADAD+2
        00EC              MULIND=ACCSAV+1
        00ED              MULCNT=MULIND+1
        00EE              COUNT=MULCNT+1
```

Datum ingang: MARCH 04 1977
Vervangt: NEW
d.d.: -
Ref.: SIEP DE VRIES

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```
CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

                          ; ***************************************************
                          ; *                                                 *
                          ; * * *  FUNCTIONS PROVIDED:                       *
                          ; *      LOAD, STORE, ADD, SUBTRACT,                *
                          ; *      MULTIPLY, DIVIDE                           *
                          ; *                                                 *
                          ; ***************************************************
                          ;
                          ;
                          ;
                          *=300
        0300 86 E9        BEGALG   STX     LOADAD           GENERAL SETUP AND 2 Routine
        0302 84 EA                 STY     LOADAD+1         INITIALIZE
        0304 85 EB                 STA     ACCSAV
        0306 A2 02                 LDX     #SIZE-1
        0308 A0 00                 LDY     #0
        030A 94 E0        CLRWER   STY     ACCU+SIZE,X
        030C CA                    DEX
        030D 10 FB                 BPL     CLRWER
        030F A2 02                 LDX     #SIZE-1
        0311 F8                    SED
        0312 60                    RTS
        0313 20 00 03     LOAD     JSR     BEGALG           LOAD INTO  1° Routine
        0316 B1 F9        NLOAD    LDA     (LOADAD),Y       ACCU
        0318 99 DD 00              STA     ACCU,Y
        031B C8                    INY
        031C CA                    DEX
        031D 10 F7                 BPL     NLOAD
        031F D8           ALGOUT   CLD                      GENERAL EXIT
        0320 A6 E9                 LDX     LOADAD           RESTORE REGISTERS
        0322 A4 EA                 LDY     LOADAD+1
        0324 A5 EB                 LDA     ACCSAV
        0326 60                    RTS
        0327 20 00 03     STORE    JSR     BEGALG           STORE FROM — 3° Routine
        032A B9 DD 00     NSTOR    LDA     ACCU,Y           ACCU
        032D 91 E9                 STA     (LOADAD),Y
        032F C8                    INY
        0330 CA                    DEX
        0331 10 F7                 BPL     NSTOR
```

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POCKET CALCULATOR PROGRAM
INTEGER PACKAGE 'INTCAL'
Nummer: PC001
Blad: 14 OF 17
Datum ingang: MARCH 04, 1977
Vervangt: NEW.
d.d.: -
Ref.: STEP DE VRIES
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CARD #	LOC	OBJECT CODE	LABEL	OPER	OPERAND	COMMENTS
424	0333	30 EA		BMI	ALGOUT	
425	0335	20 00 03	ADD	JSR	BEGALG	ADD INTO
426	0338	18		CLC		ACCU
427	0339	B9 DD 00	NADD	LDA	ACCU,Y	
428	033C	71 E9		ADC	(LOADAD),Y	
429	033E	99 DD 00		STA	ACCU,Y	
430	0341	C8		INY		
431	0342	CA		DEX		
432	0343	10 F4		BPL	NADD	
433	0345	30 D8		BMI	ALGOUT	
434	0347	20 00 03	SUB	JSR	BEGALG	SUBTRACT FROM
435	034A	38		SEC		ACCU
436	034B	B9 DD 00	NSUB	LDA	ACCU,Y	
437	034E	F1 E9		SBC	(LOADAD),Y	
438	0350	99 DD 00		STA	ACCU,Y	
439	0353	C8		INY		
440	0354	CA		DEX		
441	0355	10 F4		BPL	NSUB	
442	0357	B0 03		BCS	CLICAR	
443	0359	38	SETCAR	SEC		
444	035A	B0 C3		BCS	ALGOUT	
445	035C	18	CLICAR	CLC		
446	035D	90 C0		BCC	ALGOUT	
447	035F	86 E9	MPY	STX	LOADAD	
448	0361	84 EA		STY	LOADAD+1	
449	0363	85 EB		STA	SAVACC	
450	0365	A2 06		LDX	#SIZE*2	
451	0367	B5 DC	WIMPY	LDA	ACCU-1,X	
452	0369	95 E2		STA	DACCU-1,X	
453	036B	A9 00		LDA	#0	
454	036D	95 DC		STA	ACCU-1,X	
455	036F	CA		DEX		
456	0370	D0 F5		BNE	WIMPY	
457	0372	A8		TAY		
458	0373	A9 03		LDA	#SIZE	
459	0375	85 ED		STA	MULCNT	
460	0377	F8		SED		
461	0378	B1 E9	OUTLUP	LDA	(LOADAD),Y	
462	037A	85 EC		STA	MULIND	
463	037C	F0 1C		BEQ	NOADD	

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POCKET CALCULATOR PROGRAM

INTEGER PACKAGE 'INTCAL'

Nummer: PC001

Blad: 15 OF 17

Datum ingang: MARCH 04 1977

Vervangt: NEW

d.d.: -

Ref.: SIEP DE VRIES

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CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS
    464 C37E 18           PEUTER   CLC
    465 C37F A9 06                 LDA     #SIZE*2
    466 0381 85 EE                 STA     COUNT
    467 0383 A2 00                 LDX     #0
    468 0385 B5 DD         WERADD  LDA     ACCU,X
    469 0387 75 E3                 ADC     DACCU,X
    470 0389 95 DD                 STA     ACCU,X
    471 038B E8                    INX
    472 038C C6 EE                 DEC     COUNT
    473 038E D0 F5                 BNE     WERADD
    474 0390 B0 8D         ULGO    BCS     ALGOUT
    475 0392 A5 EC                 LDA     MULIND
    476 0394 E9 00                 SBC     #0
    477 0396 85 EC                 STA     MULIND
    478 0398 D0 E4                 BNE     PEUTER
    479 039A A2 05         NOADD   LDX     #SIZE*2-1
    480 039C B5 E2         WUSTUR  LDA     DACCU-1,X
    481 039E 95 E3                 STA     DACCU,X
    482 03A0 CA                    DEX
    483 03A1 D0 F9                 BNE     WUSTUR
    484 03A3 86 E3                 STX     DACCU
    485 03A5 C8                    INY
    486 03A6 C6 ED                 DEC     MULCNT
    487 03A8 D0 CE                 BNE     OUTLUP
    488 03AA F0 B0         PULGO   BEQ     CLICAR
    489 03AC 86 E9         DVI     STX     LOADAD
    490 03AE 84 EA                 STY     LOADAD+1
    491 03B0 85 EB                 STA     ACCSAV
    492 03B2 A2 03                 LDX     #SIZE
    493 03B4 86 EC                 STX     MULIND
    494 03B6 A2 05                 LDX     #SIZE*2-1
    495 03B8 B5 DD         MOVDIV  LDA     ACCU,X
    496 03BA 95 E3                 STA     DACCU,X
    497 03BC A9 00                 LDA     #0
    498 03BE 95 DD                 STA     ACCU,X
    499 03C0 CA                    DEX
    500 03C1 10 F5                 BPL     MOVDIV
    501 03C3 A0 02         DIVLUP  LDY     #SIZE-1
    502 03C5 A6 EC                 LDX     MULIND
    503 03C7 B5 E5         TESWER  LDA     DACCU+SIZE-1,X
```


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CARD #  LOC  OBJECT CODE  LABEL    OPER    OPERAND          COMMENTS

   504  03C9 D1 E9                CMP     (LOADAD),Y
   505  03CB 90 29                BCC     FINDEV
   506  03CD B5 E5                LDA     DACCU+SIZE-1,X
   507  03CF F0 21                BEQ     NOCOMP
   508  03D1 A6 EC                LDX     MULIND
   509  03D3 A0 00                LDY     #0
   510  03D5 A9 03                LDA     #SIZE
   511  03D7 85 ED                STA     MULCNT
   512  03D9 F8                   SED
   513  03DA B5 E3        DIVRE   LDA     DACCU,X
   514  03DC F1 E9                SBC     (LOADAD),Y
   515  03DE 95 E3                STA     DACCU,X
   516  03E0 E8                   INX
   517  03E1 C8                   INY
   518  03E2 C6 ED                DEC     MULCNT
   519  03E4 D0 F4                BNE     DIVRE
   520  03E6 B5 DA                LDA     ACCU-SIZE,X
   521  03E8 C9 99                CMP     #$99
   522  03EA B0 A4                BCS     ULGO
   523  03EC 69 01                ADC     #1
   524  03EE 95 DA                STA     ACCU-SIZE,X
   525  03F0 D0 D1                BNE     DIVLUP
   526  03F2 CA           NOCOMP  DEX
   527  03F3 88                   DEY
   528  03F4 10 D1                BPL     TESWER
   529  03F6 C6 EC        FINDIV  DEC     MULIND
   530  03F8 10 C9                BPL     DIVLUP
   531  03FA 4C 5C 03             JMP     CLICAR
   532                       ;
   533                       .END
```


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